CSC-5500

Multi-Input Scaler

Operation Manual

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SAFETY PRECAUTIONS

Please read all instructions before attempting to unpack, install or operate this equipment and before connecting the power supply.

Please keep the following in mind as you unpack and install this equipment:

- Always follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Never spill liquid of any kind on or into this product.
- Never push an object of any kind into this product through any openings or empty slots in the unit, as you may damage parts inside the unit.
- Do not attach the power supply cabling to building surfaces.
- Use only the supplied power supply unit (PSU). Do not use the PSU if it is damaged.
- Do not allow anything to rest on the power cabling or allow any weight to be placed upon it or any person walk on it.
- To protect the unit from overheating, do not block any vents or openings in the unit housing that provide ventilation and allow for sufficient space for air to circulate around the unit.

REVISION HISTORY

VERSION NO.	DATE DD/MM/YY	SUMMARY OF CHANGE
VR01	27/06/13	Preliminary Release

CONTENTS

1. Introduction 1
2. Applications 1
3. Package Contents 1
4. System Requirements 1
5. Features 1
6. Operation Controls and Functions 2
6.1 Front Panel 2
6.2 Rear Panel 3
6.3 Remote Control 4
6.4 RS-232 Protocols 5
6.5 RS-232 and Telnet Commands 6
6.6 OSD MENU 9
6.7 Telnet Control 12
6.8 Web GUI Control 14
7. Connection and Installation 15
8. Specifications 16
8.1 Support I/O Resolution 17

1. INTRODUCTION

The Multi-Input Scaler has CV, Component, PC, and HDMI inputs and can scale the signal into HDMI, VGA with audio output ports. This high performance Multi-Input Scaler supports HDMI output resolution up to 1080p /WUXGA and Analog Digital Conversion (ADC) & Digital Analog Conversion (DAC) allowing a wide range of AV signal to be insert to a High-definition signal and displaying. Further, with OSD, remote, RS-232, Telnet, Web GUI and on-panel controls that makes whole for this Multi-Input Scaler a friendly using device.

2. APPLICATIONS

- Lecture hall
- Meeting room
- Conference hall

3. PACKAGE CONTENTS

- Multi-Input Scaler
- Remote Control (CR-122)
- 2 x AAA Batteries
- IR Extender Cable
- D-Sub to RCA adaptor cable
- Power Adaptor
- Operation Manual

4. SYSTEM REQUIREMENTS

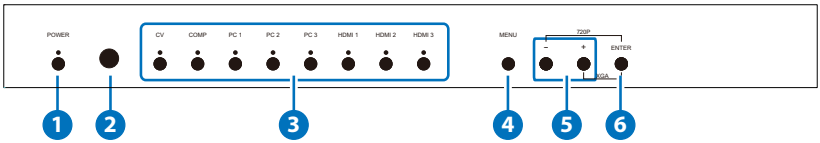
Input source equipments such as Blu-ray/DVD players or PC/NB, output display and amplifier or speakers.

5. FEATURES

- Supports multi-AV inputs to HDMI or PC/HD outputs
- Supports EDID and HDCP
- Supports 3D de-interlace, noise reduction and 3D Comb filter
- Supports frame rate conversion
- Supports RS-232, Telnet, Web GUI & IR Controls
- Support output timing hot keys switching
- HDMI compatible with DVI

6. OPERATION CONTROLS AND FUNCTIONS

6.1 Front Panel



1 POWER button & LED:

Press this button to switch ON or set the device to standby mode. Once the device is connected with power supply and the power toggle is switched to ON the LED will illuminate and the device will switch ON automatically.

2 IR:

This IR window receives only the IR signal from the remote control included in the package.

3 INPUT button and LEDs:

Press this button sequentially to switch in between the input sources rotationally. LED will illuminate accordingly to the selected input source.

4 MENU:

Press this button to enter into the OSD menu.

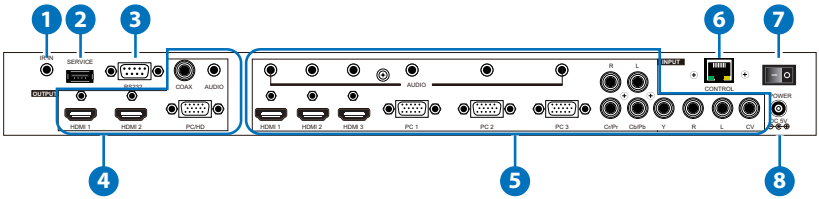
5 -/+:

Press these buttons to scroll down and up in the OSD selection.

6 ENTER:

Press this button to confirm the selection. Press this button together with [+] button to switch output to XGA instantly or with [-] button to switch output to 720p instantly.

6.2 Rear Panel



1 IR IN:

Plug in the IR extender cable for IR signal receiving from the included remote control.

2 SERVICE:

Reserved for factory use only.

3 RS-232:

Connect with PC/Laptop and use RS-232 command to control the device.

4 OUTPUT:

HDMI 1 & 2: Connect to HDMI display or amplifier for video and audio display.

COAX: Connect to active speaker or amplifier for audio output in digital format.

AUDIO: Connect to active speaker or amplifier for audio output in stereo format.

PC/HD: Connect to monitor/display for video output display. For HD output, use D-Sub 9-pin to 3 RCA adaptor cable for output HD timing from 480p~1080p.

5 INPUT:

HDMI 1~3: Connect to HDMI source equipments such as Blu-ray/ DVD player for both video and audio signal sending.

PC 1~3: Connect with PC/Laptop source equipments for video signal input with D-Sub 15-pin cable.

Audio L/R: Connect to source equipment's L/R output corresponding to the input port below with 3.5Ø phone jack for audio signal sending. The priority audio input of HDMI is from HDMI, only when HDMI input has no audio signal the L/R audio will be inserted into.

YCbCr/YPbPr + L/R: Connect to source equipment such as video/

DVD player for both video and audio signal sending.

CV + L/R: Connect to source equipment such as video/DVD player for both video and audio signal sending.

6 **CONTROL:**

This port is the link for Telnet or Web GUI controls, connect to an active Ethernet link with an RJ45 terminated cable (for further details, please refer to section 6.7 & 6.8.

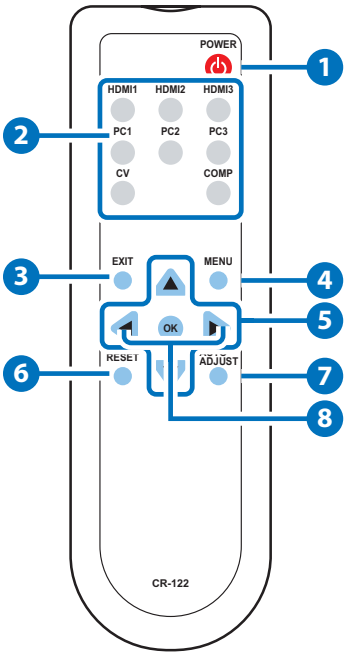
7 **POWER:**

Switch this power toggle to turn ON and activate the device or to turn OFF and shut it down.

8 **DC 5V:**

Plug the power adaptor included in the package and connect it to the AC wall outlet for power supply.

6.3 Remote Control



1 **POWER:** Press this button to switch ON or set the device to standby mode. The device must connect with power supply and the power toggle must switch to ON.

2 **HDMI1~3/PC1~3/CV/COMP:** Press these hot keys to switch input source instantly.

3 **EXIT:** Press this button to exit the menu or the current selection under OSD.

4 **MENU:** Press this button to enter into the OSD menu.

5 **OK & ▲▼◄►:** Press [OK] to confirm the selection or press the arrow buttons to scroll in the OSD selections.

6 **RESET:** Press this button to set the device back into the factory default setting.

7 **AUTO ADJUST:** Press this button when output image is not fitting the display's screen perfectly. The device will auto adjust the image to full screen.

8 ◄►: Press right and left buttons to increase and decrease the volume when outside of OSD menu selection.

6.4 RS-232 Protocols

CSC-5500	
PIN	Assignment
1	NC
2	Tx
3	Rx
4	NC
5	GND
6	NC
7	NC
8	NC
9	NC

►
◄

Remote Control	
PIN	Assignment
1	NC
2	Rx
3	Tx
4	NC
5	GND
6	NC
7	NC
8	NC
9	NC

Baud Rate: 19200bps
Data bit: 8 bits
Parity: None
Flow Control: None
Stop Bit: 1

6.5 RS-232 and Telnet Commands

?: Show command list under Telnet.

Command	Description	Contents
S POWER 0/1	Power ON or OFF	OFF(0) / ON(1)
R POWER	Request power status	
S SOURCE 1~8	Select input source	HDMI1(1) / HDMI2(2) / HDMI3 (3) / YPBPR(4) / VIDEO(5) / PC(6) / PC2(7) / PC3(8)
R SOURCE	Inquire input source	
S OUTPUT 0~21	Select output timing*1	640*480(0)/800*600(1)/ 1024*768(2)/1280*768(3)/ 1360*768(4)/1280*720(5)/ 1280*800(6)/1280*1024(7)/ 1440*900(8)/1400*1050(9)/ 1680*1050(10)/ 1600*1200(11)1920*1080(12)/ 1920*1200(13)/ 480p(14)/720p 60(15)/ 1080i 60(16)/ 1080p 60(17)/ 576p(18)/720p 50(19)/ 1080i 50(20)/ 1080p 50(21)
R OUTPUT	Inquire output timing	
S SIZE 0~6	Select output size	OVERSCAN(0) / FULL(1) / FOLLOW INPUT(2) / PAN SCAN(3)/LETTER BOX(4) / UNDER 2(5) / UNDER 1(6)
R SIZE	Inquire output size	
S INPUTHDCP 0/1	Select HDCP setting	ON(0) / OFF(1)
R INPUTHDCP	Inquire HDCP setting	ON(0) / OFF(1)

S CONTRAST 0~60	Contrast Setting	
R CONTRAST	Inquire contrast setting	
S BRIGHTNESS 0~60	Brightness setting	
R BRIGHTNESS	Inquire brightness setting	
S HUE 0~60	Hue setting	
R HUE	Inquire hue setting	
S SATURATION 0~60	Saturation setting	
R SATURATION	Inquire saturation setting	
S SHARPNESS 0~30	Sharpness setting	
R SHARPNESS	Inquire sharpness setting	
S NR 0~3	Noise reduction setting	OFF(0) / LOW (1) / MIDDLE(2) / HIGH(3)
R NR	Inquire noise reduction setting	
S VOLUME 0~100	Volume Setting	
R VOLUME	Inquire Volume setting	
S AUDIODELAY 0~3	Audio delay setting	OFF(0) / 40ms (1) / 110ms(2) / 150ms(3)
R AUDIODELAY	Inquire audio delay setting	
S AUDIOMUTE 0/1	Audio mute setting	ON(0) / MUTE(1)
R AUDIOMUTE	Inquire audio mute setting	
S HDMIAUDIO 0/1	HDMI Audio Setting	AUTO(0) / EXT.(1)
R HDMIAUDIO	Inquire Audio setting	
S KEY LOCK 0/1	Key lock setting	ENABLE(0) / DISABLE(1)
R KEY LOCK	Inquire key lock setting	
S FREERUNCOLOR 0/1	Free run color setting	BLACK (0) / BLUE (1)
R FREERUNCOLOR	Inquire free run color setting	
S RESET 1	Pre-reset	

PORT (0~8)	Set active port when repower on	LAST MEMORY(0) / HDMI(1) / HDMI2(2) / HDMI3(3) / YPBPR(4) / VIDEO (5) / PC(6) / PC2(7) / PC3(8)
ST	FW vers. & source info.	0.00~x.xx SOURCE: HDMI ~ PC3 PORT ON:LAST ~ PC3
VOL +	Volume up and down	VOLUME * IS SET
VOL -		
QUIT	EXIT (Telnet only)	

* *1 Resolution 0~13 are RGB encoded and resolution 14~21 are YUV encoded.*

All command will be not executed unless followed with a carriage return + LF and commands are case-insensitive.

6.6 OSD MENU

1st Layer	2nd Layer	3rd Layer	4th Layer
DISPLAY	OUTPUT	640x480 60	
		800x600 60	
		1024x768 60	
		1280x768 60	
		1360x768 60	
		1280x720 60	
		1280x800 60	
		1280x1024 60	
		1440x900 60	
		1400x1050 60	
		1680x1050 60	
		1600x1200 60	
		1920x1080 60	
		1920x1200 60	
		1280X720P 60	
		1920X1080I 60	
		1920X1080P 60	
		720X576P 50	
		1280X720P 50	
		1920X1080I 50	
		1920X1080P 50	
	SIZE	OVER SCAN	
		FULL	
		FOLLOW INPUT	
		PAN SCAN	
		LETTER BOX	
		UNDER 2	
		UNDER 1	
	MODE INFO	OFF	
		INFO	
		ON	
	INPUT HDCP (HDMI mode only)	OFF	
		ON	
	PC (PC mode only)	AUTO SETUP	
		H_POSITION	
		V_POSITION	
		PHASE	
		CLOCK	
		WXGA/XGA	***XGA***
			WXGA
		RESET	

COLOR	CONTRAST	0~60 (30)	
	BRIGHTNESS	0~60 (30)	
	COLOR	R 0~1023 (512)	
		G 0~1023 (512)	
		B 0~1023 (512)	
		R OFFSET 0~1023 (512)	
		G OFFSET 0~1023 (512)	
		B OFFSET 0~1023 (512)	
	HUE	0~60 (30)	
	SATURATION	0~60 (30)	
	SHARPNESS	0~30 (0)	
	NR.	***OFF***	
		LOW	
		MIDDLE	
		HIGH	
AUDIO	VOLUME	0~100 (100)	
	DELAY	***OFF***	
		40mS	
		110mS	
		150mS	
	SOUND	***ON***	
		MUTE	
	SOURCE(HDMI mode only)*1	**AUTO**	
		EXT.	
SETUP	FACTORY RESET*2		
	KEY LOCK	***OFF***	
		ON	
	POWER SAVE	***OFF***	
		ON	
	IP MODE	**DHCP**	
		STATIC	
	SET STATIC IP	IP ADDRESS	0.0.0.0.~255.255.255.255*3
		SUBNET MASK	0.0.0.0.~255.255.255.255*4
		Def. Getway	0.0.0.0.~255.255.255.255*5
	FREERUN COLOR	BLACK / **BLUE**	

INFORMATION	INPUT	
	OUTPUT	
	REVISION	
	IP ADDRESS	

Factory default setting.

**1 When Audio Source is set on Auto, the device will send audio signal according to input source. If input signal is with HDMI, the device will use internal signal and if input signal is with DVI, the device will use external L/R audio. When Audio Source is set on EXT, the device will use external L/R audio.*

**2 Factory reset under OSD only reset part of settings to reset completely please use the reset button from the remote control.*

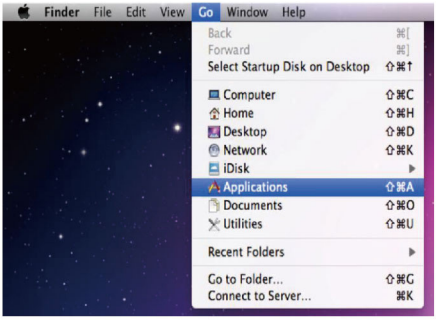
**3 192.168.0.1 (Default Setting)*

**4 255.255.255.0 (Default Setting)*

**5 192.168.0.254 (Default Setting)*

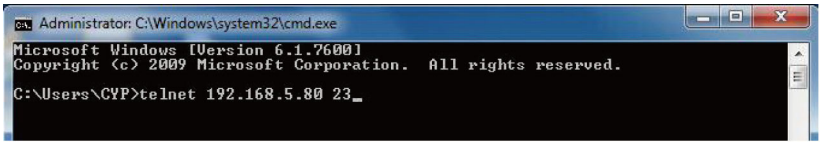
6.7 Telnet Control

Before attempting to use the telnet control, please ensure that both the Scaler (via the 'LAN port) and the PC/Laptop are connected to the active networks. To access the telnet control in Windows 7, click on the "Start" menu and type "cmd" in the Search field then press enter. Under Windows XP go to the "Start" menu and click on "Run", type "cmd" with then press enter. Under Mac OS X, go to Go→Applica tions→Utilities→Terminal See below for reference.

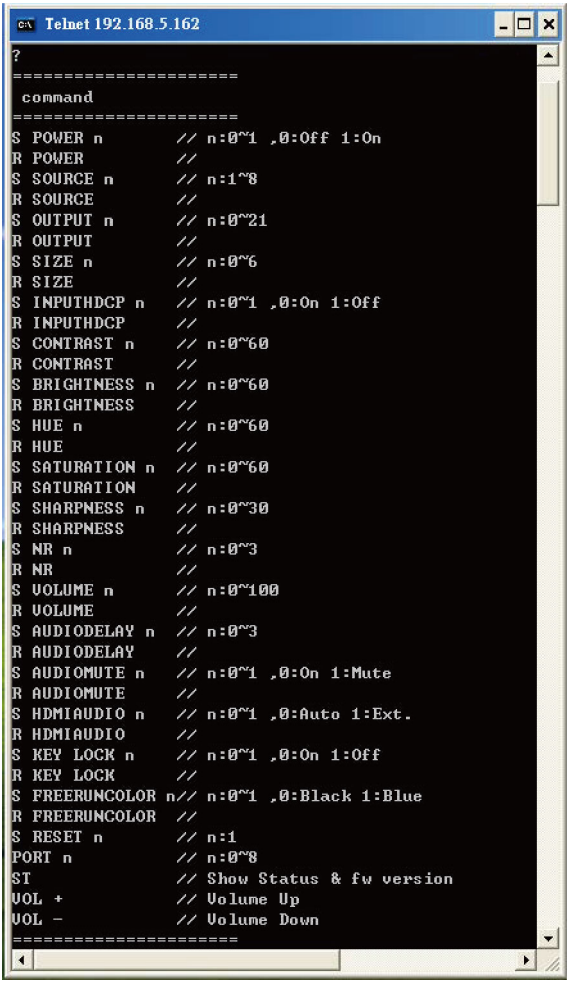


Once in the command line interface (CLI) type "telnet", the IP address of the unit you wish to control.

Note: The IP address can be found from OSD menu under Information.


Administrator: C:\Windows\system32\cmd.exe
Microsoft Windows [Version 6.1.7600]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.
C:\Users\CYP>telnet 192.168.5.80 23_

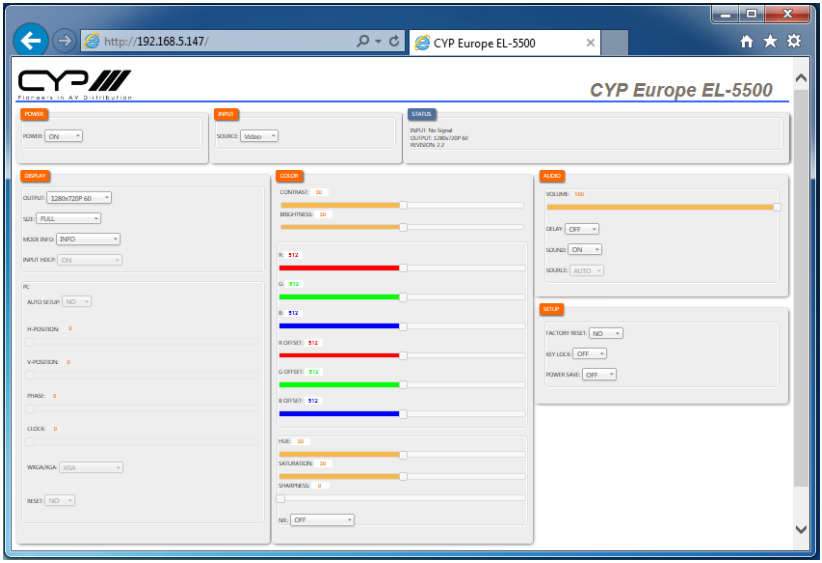
This will bring us into the device which we wish to control. Type "?" to list all the commands.


Telnet 192.168.5.162
?
======================
command
======================
S POWER n // n:0~1 ,0:Off 1:On
R POWER //
S SOURCE n // n:1~8
R SOURCE //
S OUTPUT n // n:0~21
R OUTPUT //
S SIZE n // n:0~6
R SIZE //
S INPUTHDCP n // n:0~1 ,0:On 1:Off
R INPUTHDCP //
S CONTRAST n // n:0~60
R CONTRAST //
S BRIGHTNESS n // n:0~60
R BRIGHTNESS //
S HUE n // n:0~60
R HUE //
S SATURATION n // n:0~60
R SATURATION //
S SHARPNESS n // n:0~30
R SHARPNESS //
S NR n // n:0~3
R NR //
S VOLUME n // n:0~100
R VOLUME //
S AUDIODELAY n // n:0~3
R AUDIODELAY //
S AUDIOMUTE n // n:0~1 ,0:On 1:Mute
R AUDIOMUTE //
S HDMIAUDIO n // n:0~1 ,0:Auto 1:Ext.
R HDMIAUDIO //
S KEY LOCK n // n:0~1 ,0:On 1:Off
R KEY LOCK //
S FREERUNCOLOR n// n:0~1 ,0:Black 1:Blue
R FREERUNCOLOR //
S RESET n // n:1
PORT n // n:0~8
ST // Show Status & fw version
VOL + // Volume Up
VOL - // Volume Down
======================

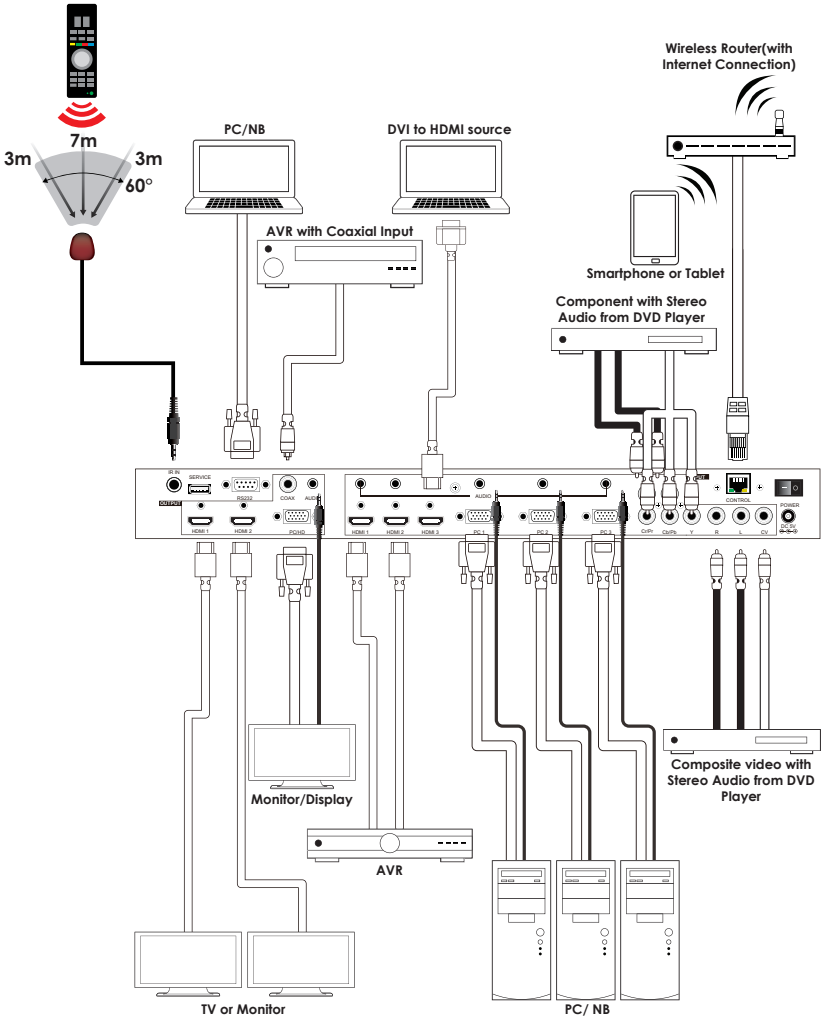
Note: *All command will not be executed unless followed by a carriage return. Commands are case-insensitive. If the IP is changed then the IP Address required for Telnet access will also needs to be change accordingly.*

6.8 Web GUI Control

On a PC/Laptop that is connected to an active network as the Scaler, open a web browser and type device's IP address on the web address entry bar. The browser will bring up the control page of Scaler.



7. CONNECTION AND INSTALLATION



8. SPECIFICATIONS

Input Ports	1 x Component with L/R, 1 x Composite with L/R, 3 x VGA, 3 x HDMI, 6 x Audio L/R (3.5mm phone jack), 1 x USB (service only), 1 x IR Extender, 1 x RS-232 (Control Only)
Output Ports	2 x HDMI, 1 x PC/HD, 1 x Coaxial, 1 x L/R
Supports Input Resolution	Up to WUXGA(RB) & 1080p
Supports Output Resolution	Up to WUXGA(RB) & 1080p
Power Supply	5V/3A DC (US/EU standards, CE/FCC/ UL certified)
Dimensions (mm)	432 (W) x 183 (D) x 47 (H)
Weight(g)	2140
Chassis Material	Metal
Silkscreen Color	Black
Operating Temperature	0˚C ~ 40˚C / 32 ˚F ~ 104 ˚F
Storage Temperature	-20˚C ~ 60˚C / -4 ˚F ~ 140 ˚F
Relative Humidity	20 ~ 90% RH (non-condensing)
Power Consumption(W)	11

8.1 Support I/O Resolution

Input / Resolution	CV	Component	PC	HDMI
NTSC/PAL	V			
480i/576i		V		V
480p/576p		V		V
720p@50/60Hz		V		V
1080i@50/60Hz		V		V
1080p@50/60Hz		V		V
VGA@60/72/75Hz			V	V
SVGA@56/60/72/75Hz			V	V
XGA@60/70/75Hz			V	V
SXGA@60/75Hz			V	V
UXGA@60Hz			V	V
1280x800@60Hz			V	V
1680x1050RB@60Hz			V	V
1920x1080@60Hz			V	V
1920x1200@60HzRB			V	V

Output / Resolution	PC/HD	HDMI
480p/576p	V (HD)	V
720p@50/60Hz	V (HD)	V
1080i@50/60Hz	V (HD)	V
1080p@50/60Hz	V (HD)	V
VGA@60Hz	V	V
SVGA@60Hz	V	V
XGA@60Hz	V	V

SXGA@60Hz	V	V
UXGA@60Hz	V	V
1280x768@60Hz	V	V
1280x800@60Hz	V	V
1360x768@60Hz	V	V
1400x1050@60Hz	V	V
1440x900@60Hz	V	V
1680x1050@60Hz	V	V
1920x1200@60Hz(RB)	V	V

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